



The Strongest Tree and how to Grow it!

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**Giant Sequoia "The
Agassiz Tree"
(Calaveras Big Trees
South Grove Loop)**



Today we will discuss the following



Tree Location

Species Selection

Tree Form

Tree Planting

Tree Maintenance

Tree Pruning



1st Key to Strength

Location, Location,
Location





by California Dept. of Forestry





- Watch for visibility issues
- Identify the use area

• Select narrow upright trees for small lawns or to avoid street overhang



2nd Key to Strength

Species Selection

What is the purpose of the tree??

- What is the trees future size, shape and overall appearance.
- Does it have fruit or seeds that are desirable or not?
- Does it like dry or wet locations?
- Faster growing trees are usually a weak wooded tree. Trees like silver maple, cottonwood, and poplar.

Tree Form

- Purchase good quality stock
- Stock that has a strong central leader
- Stock that has evenly space branches
- No major trunk wounds





Here is typical containerized stock.





Here is typical B&B stock.



3rd key to Strength

Plant correctly



Welcome to Tree Planting 101!

By Rebecca Hargrave and Marie Jones

University of Minnesota Extension Service;
Forest Resources Extension
<http://www.cnr.umn.edu/FR/extension/>

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How do you know how deep to dig?
Measure the root ball depth. To find this you must find
the first set of roots growing out of the main trunk.



**Plant
the tree
no
deeper
than the
top of
rootball**

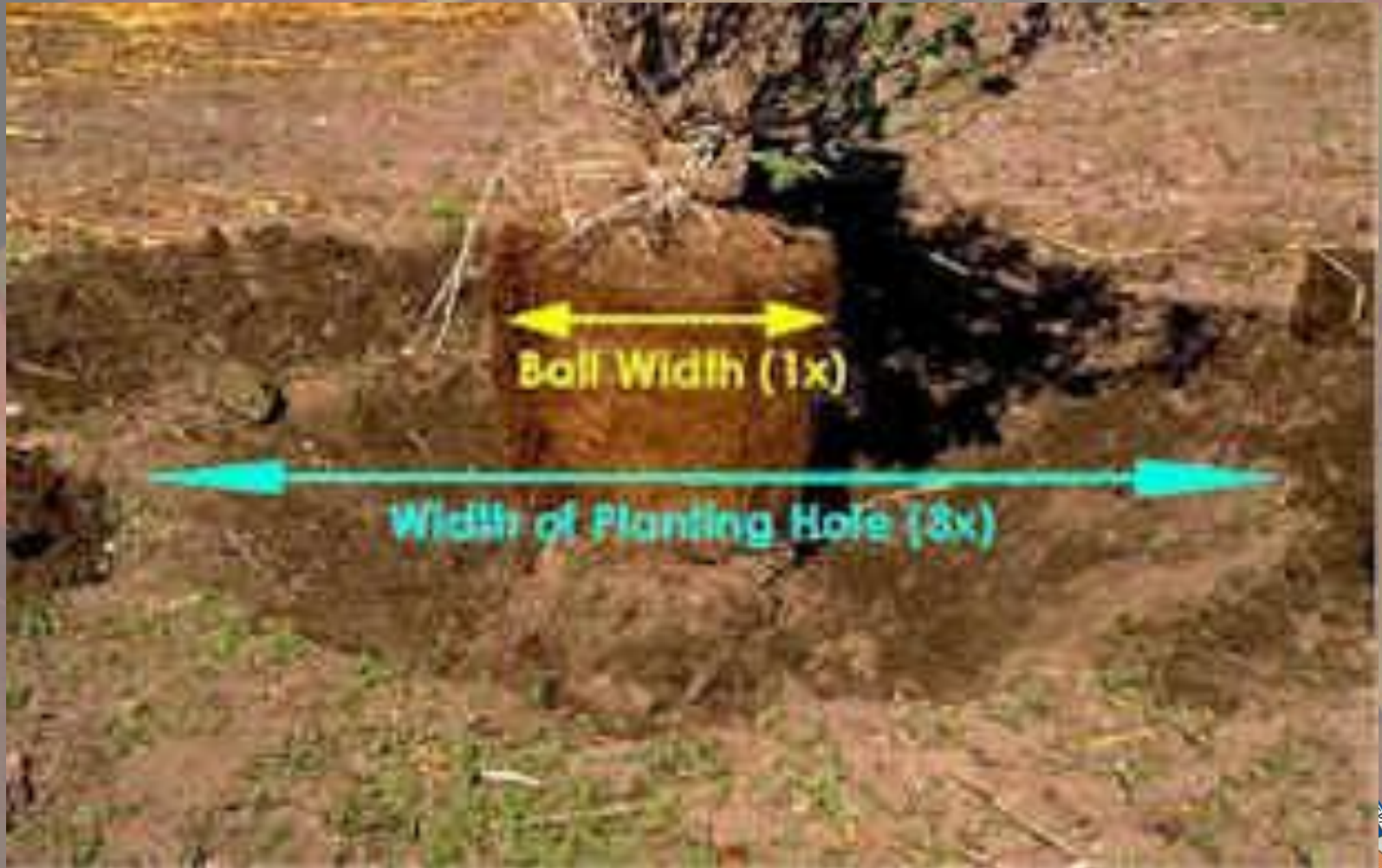






The planting hole should be 3 times the diameter of the soil ball.

It is important to loosen as much soil as possible to aid in root expansion.





Note how the soil is disturbed deeper than the base of the soil ball everywhere except directly under the ball itself.



Loosen
sides
of
planting
hole



When planting a tree the hole has to be wide enough to allow for root elongation.



**Never
handle the
tree
by the
trunk when
placing in
hole always
use the ties
or basket
to lift and
set**



Cut the ties



Cut the wire basket and remove



A person wearing a tan jacket and pants is kneeling in a field of dry grass and brush. They are pulling back a piece of burlap that was covering a small animal, possibly a raccoon, which is visible on the ground. The scene is outdoors in a natural, somewhat overgrown area.

Pull back the burlap







7 year
old tree
with ties
left on

If planting container trees.....remove container
fan out the root system or rip up the side of the
root ball with a knife.



Make a basin



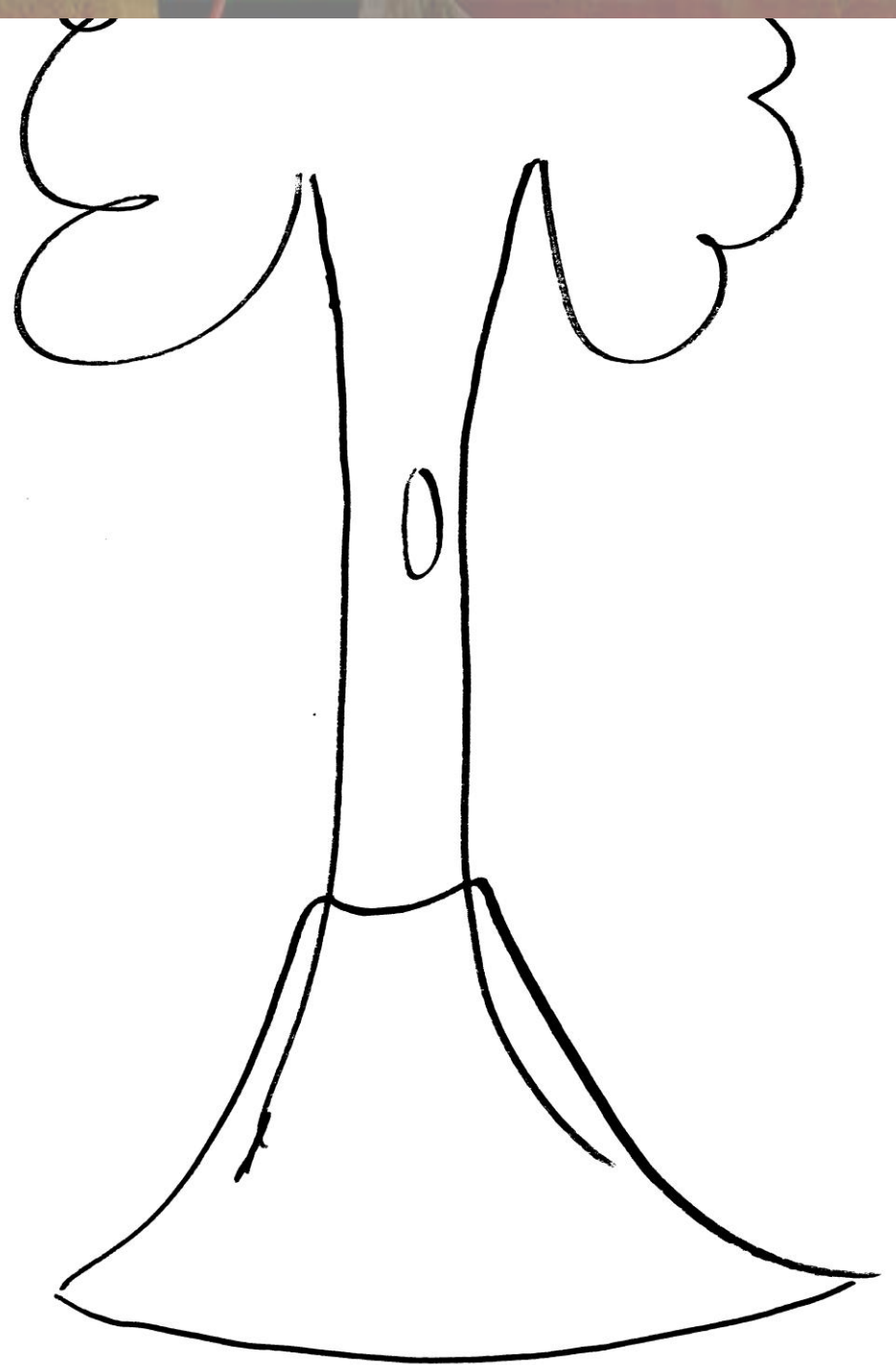
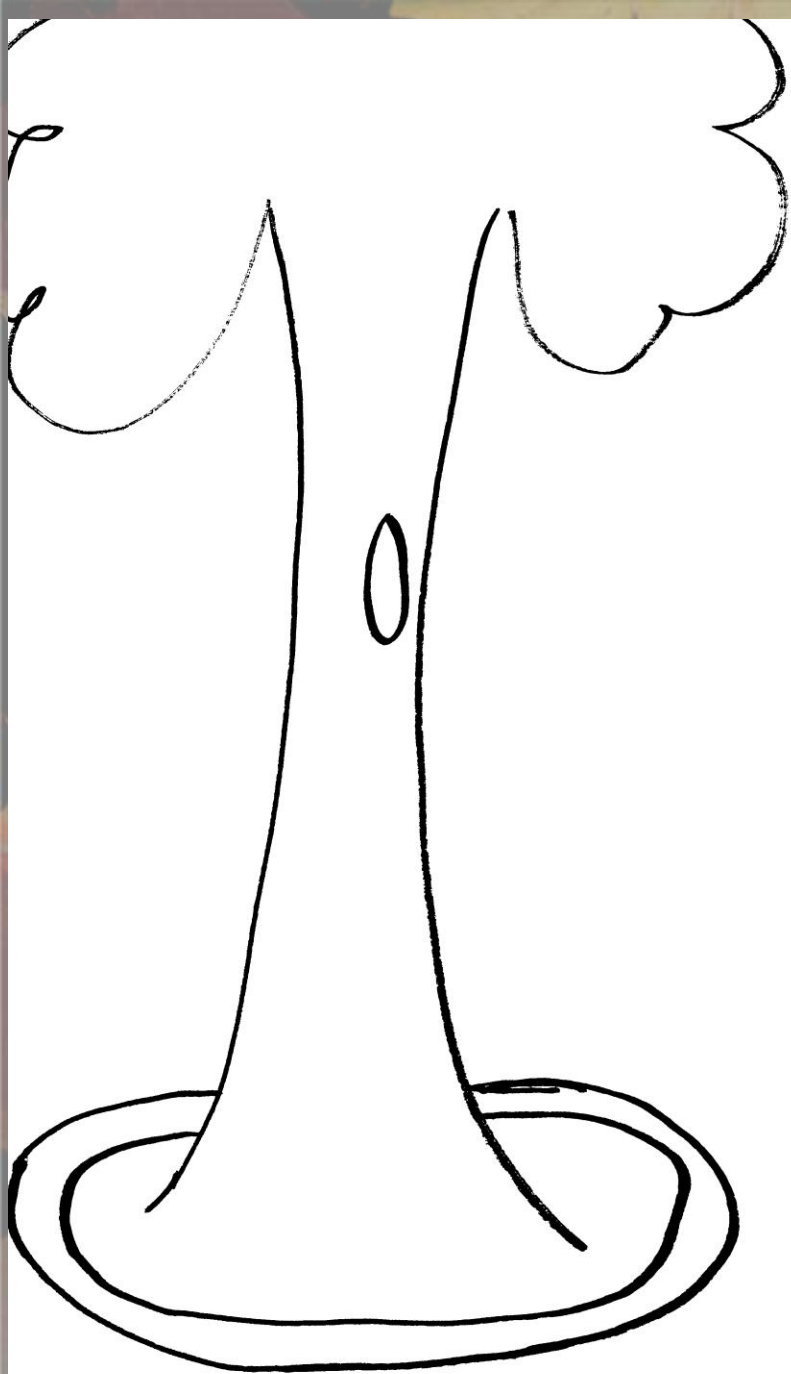
Good Mulch, Bad Mulch



Bad Mulch







Good Mulch









Better Mulch



4th Key to Strength

Tree Maintenance

Water properly
Water slow and
deep

About 1 inch a
week during
growing
season

Freshen mulch
yearly

Prune broken
branches
anytime





5th Key to Strength

Proper Pruning

Rules

- Crossing or Broken branches
- $\frac{1}{4}$ Rule

Pruning Cuts

- Cut at sharp 45 degree angle
- Cut to next bud opportunity and the $\frac{1}{3}$ diameter rule

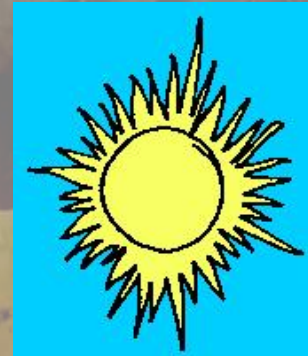


When to Prune

Fall



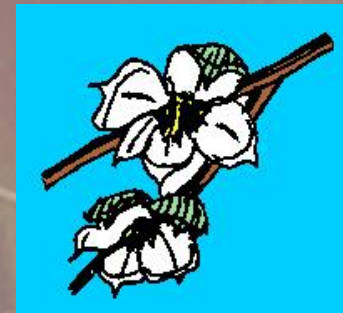
Summer



Winter



Spring



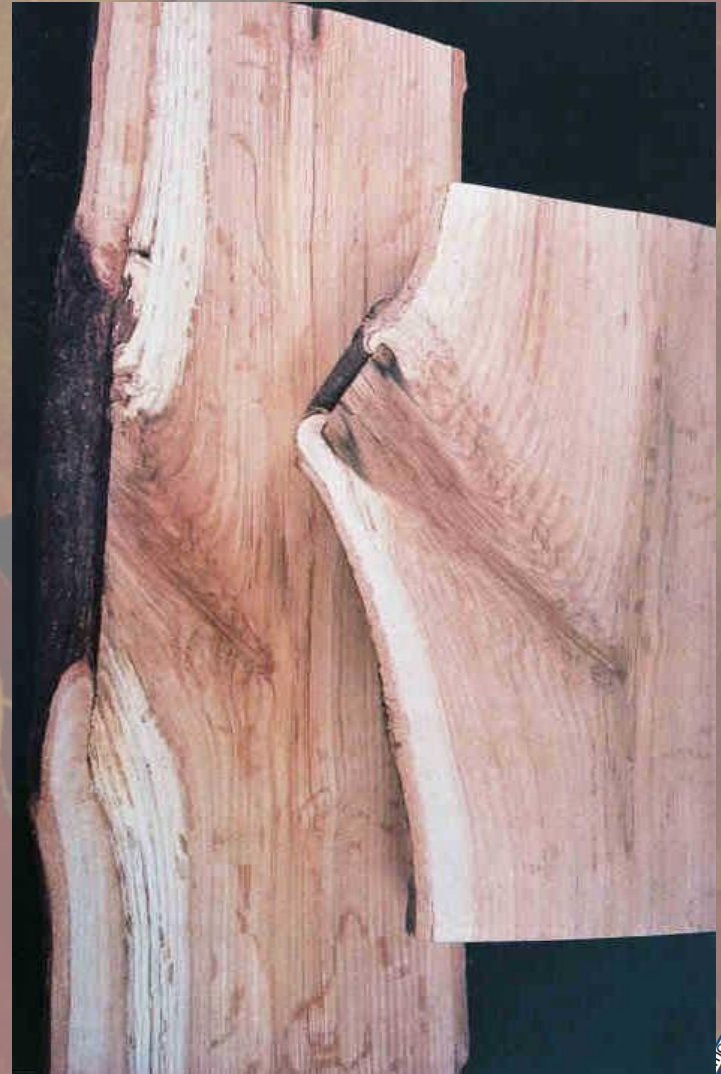
Tree Response to Wounding

- Trees Grow over wounds
 - Unlike people, trees cannot fill in wounds



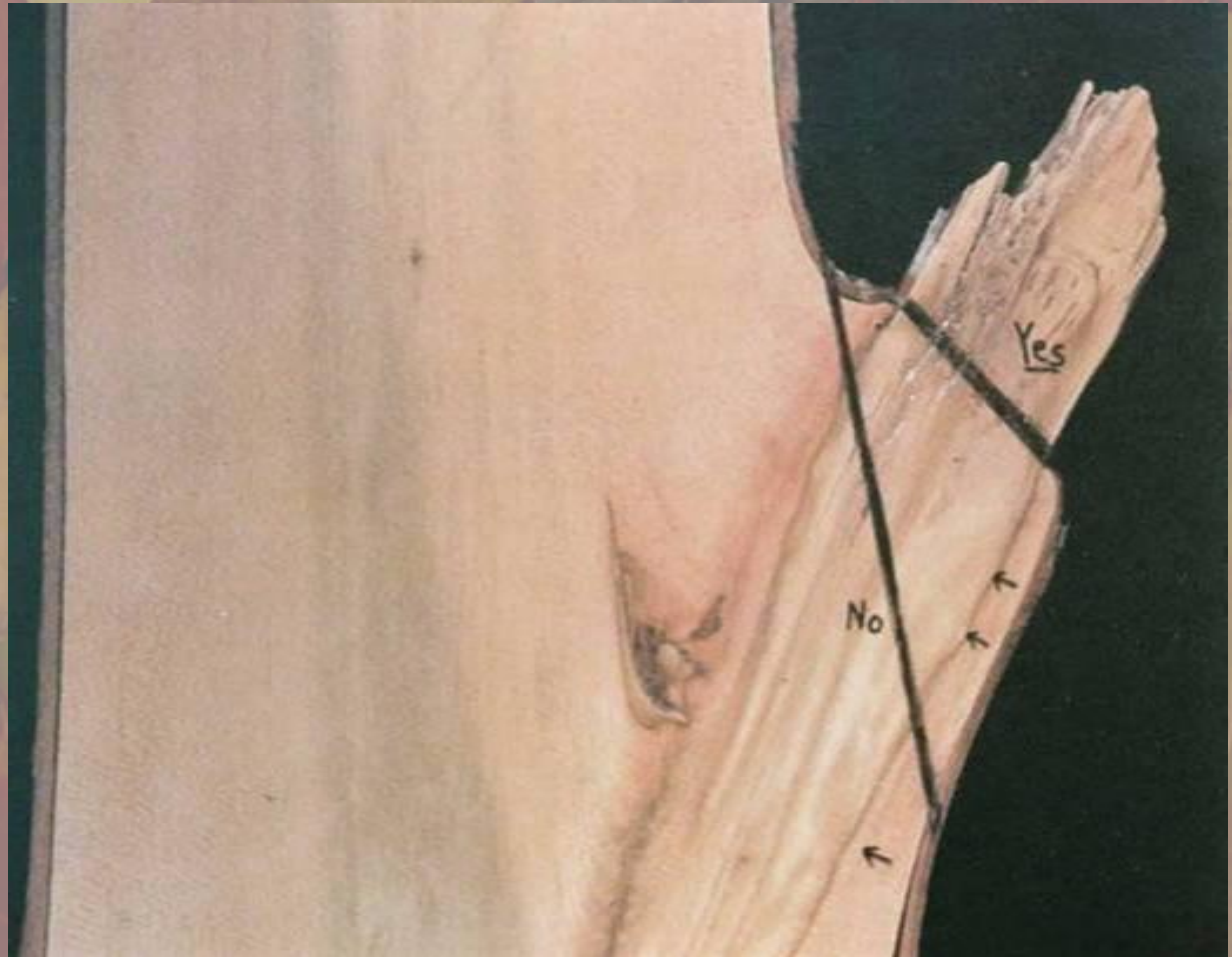
Tree Response to Wounding

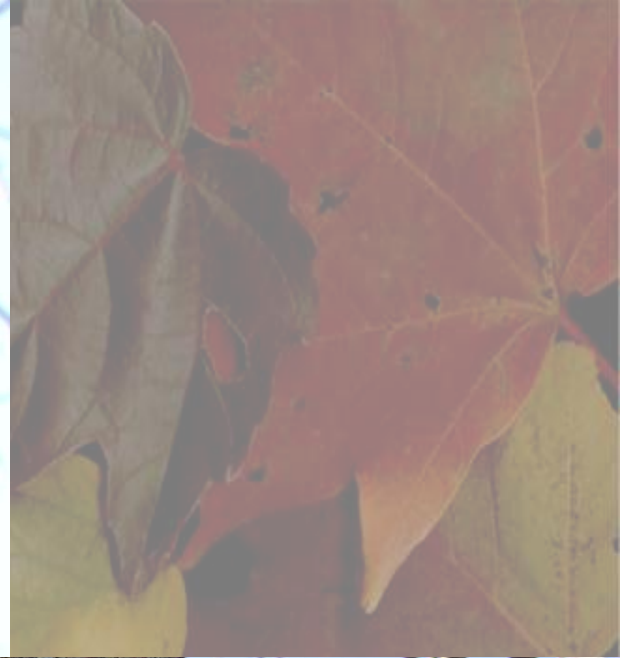
- Trees compartmentalize wounds



Tree Response to Wounding

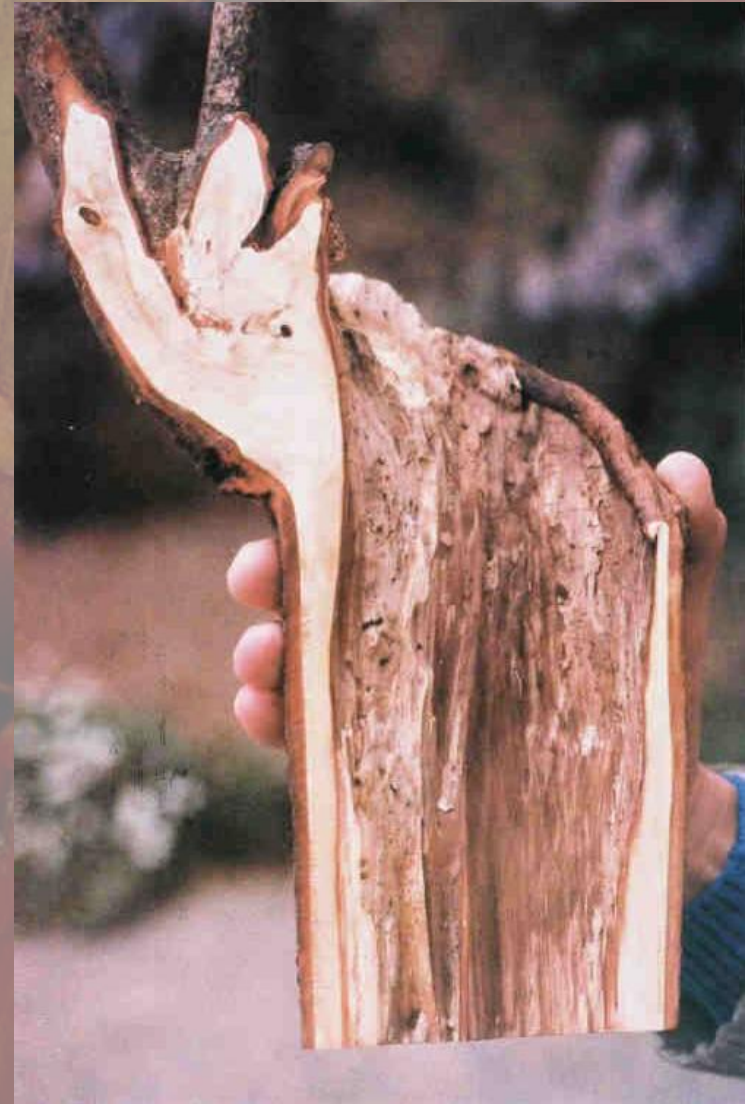
- Note the compartment lines around the broken branch





Tree Response to Wounding

- Water sprouts from old topping wound
 - Note poorly attached branches
 - Note rot from stub inside compartment lines



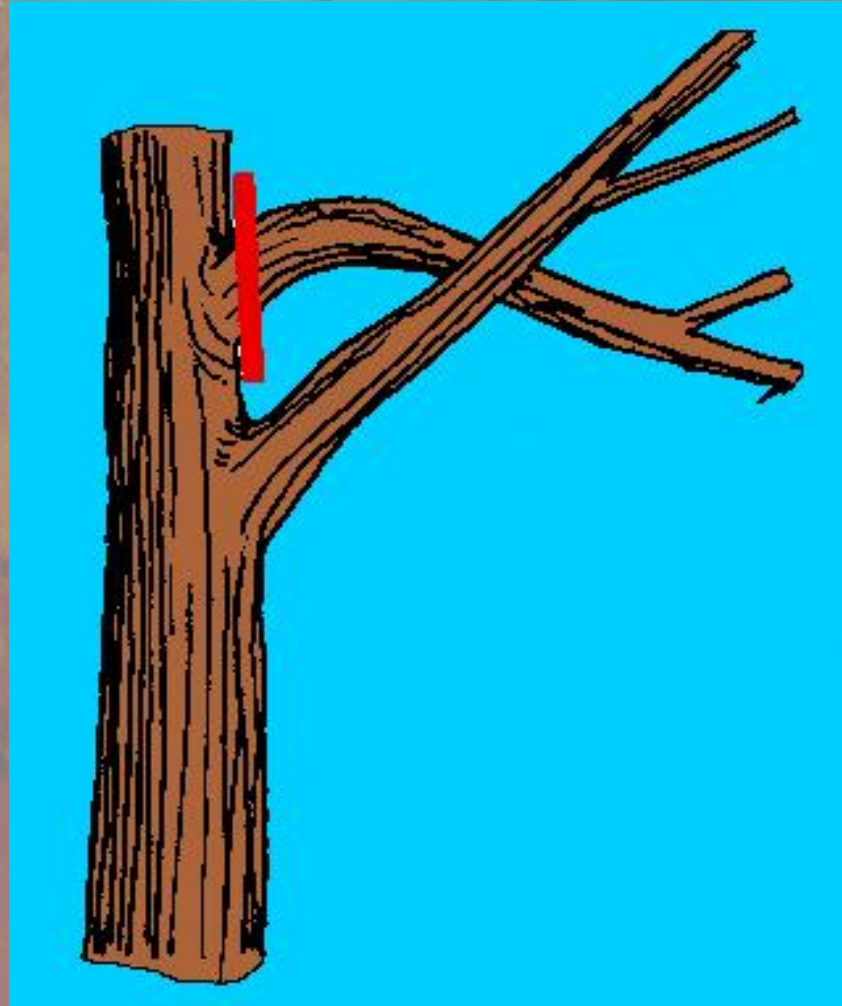
We Prune For...

- Safety
 - People
 - Property
 - House
 - Car
 - Electric System
 - other



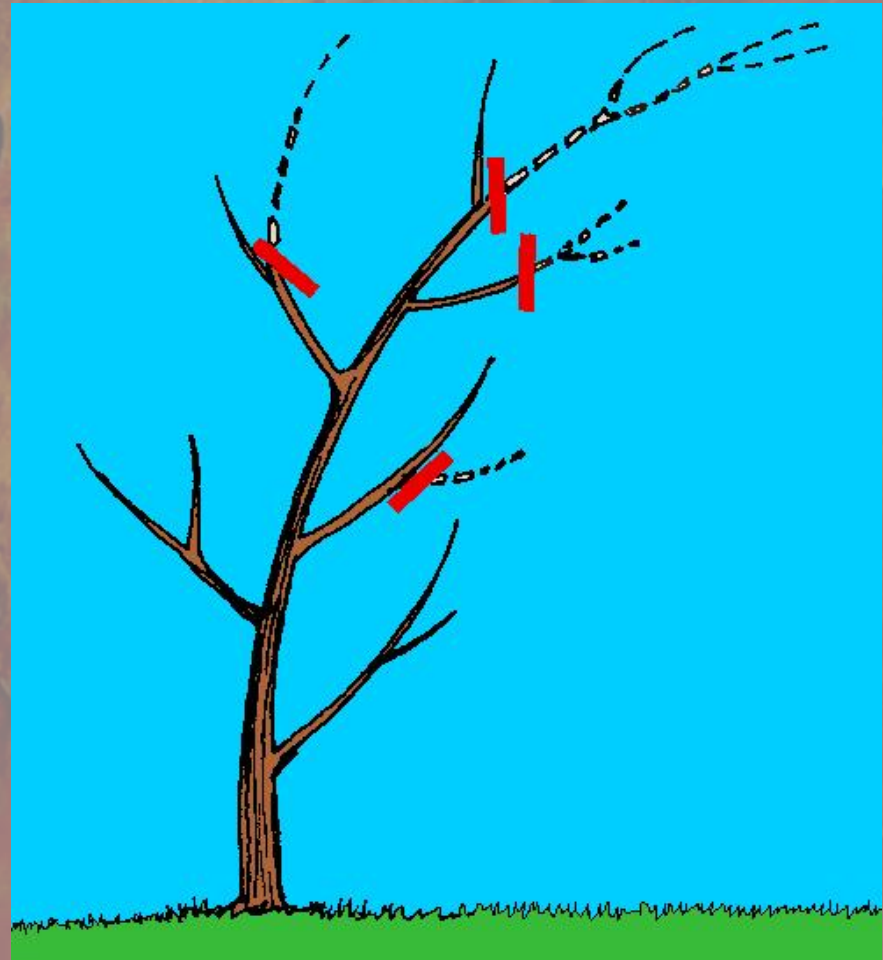
We Prune For...

- Tree Health and Strength
 - Rubbing branches
 - Water sprouts
 - Suckers
 - Disease
 - Broken branches



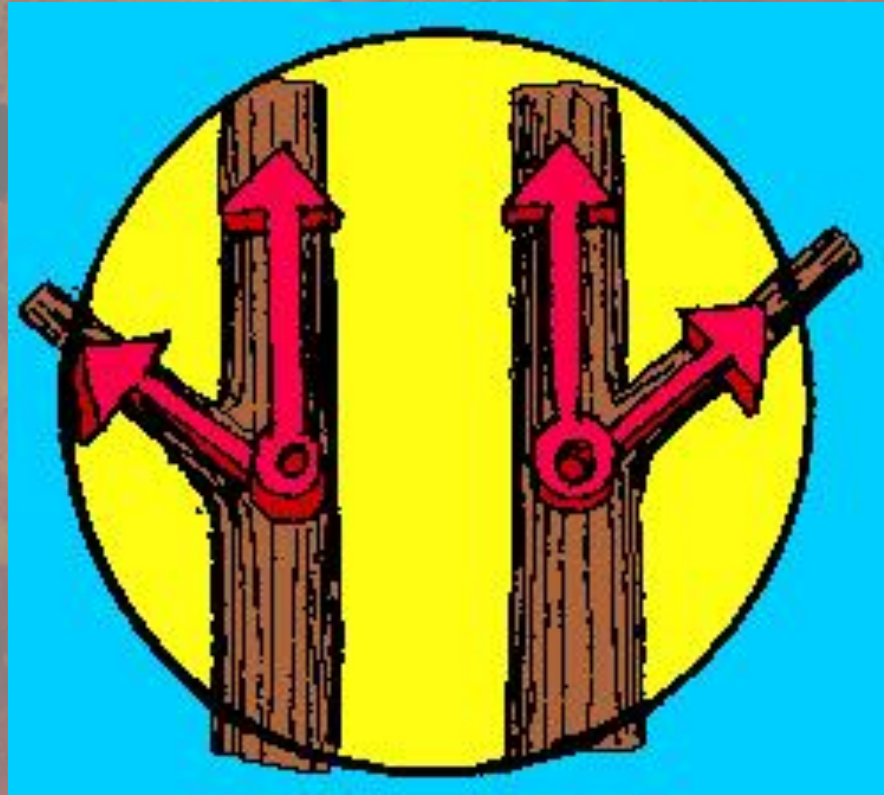
We Prune For...

- Tree Form
 - Upright shape
 - One central leader
 - Branch spacing



We Prune For...

- Tree Strength
 - Branch angles
 - Too narrow
 - ideal



Tree Branch Attachment



Tree Branch Attachment



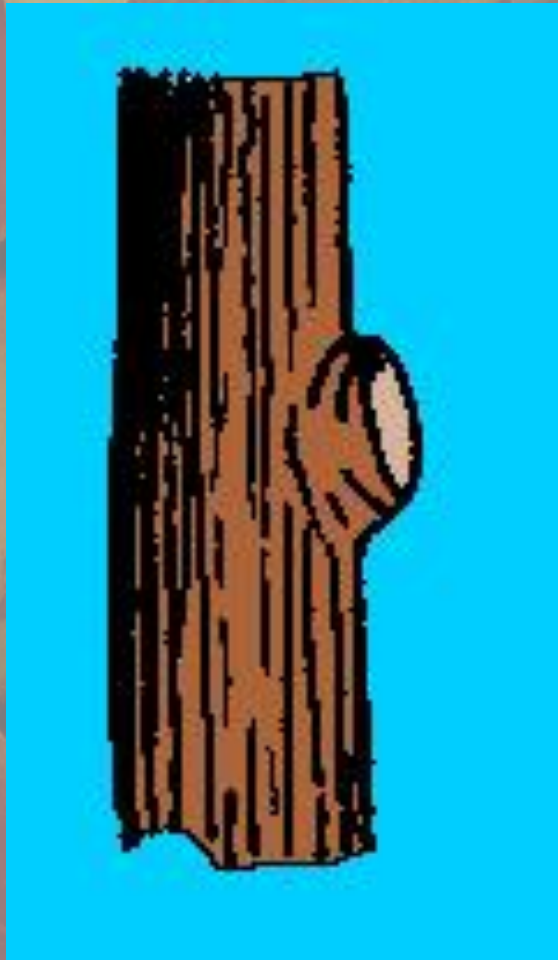
Tools



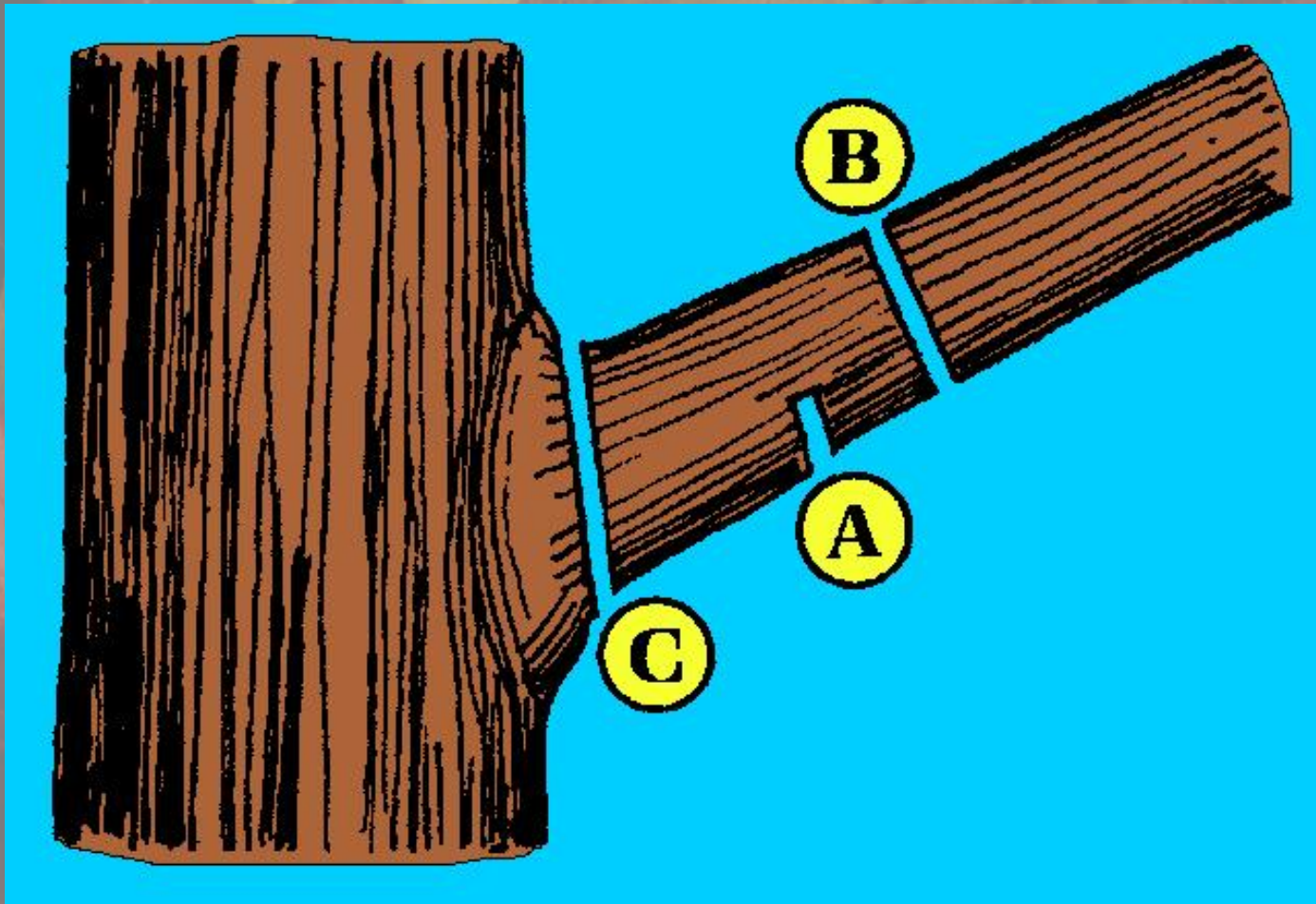
Tools



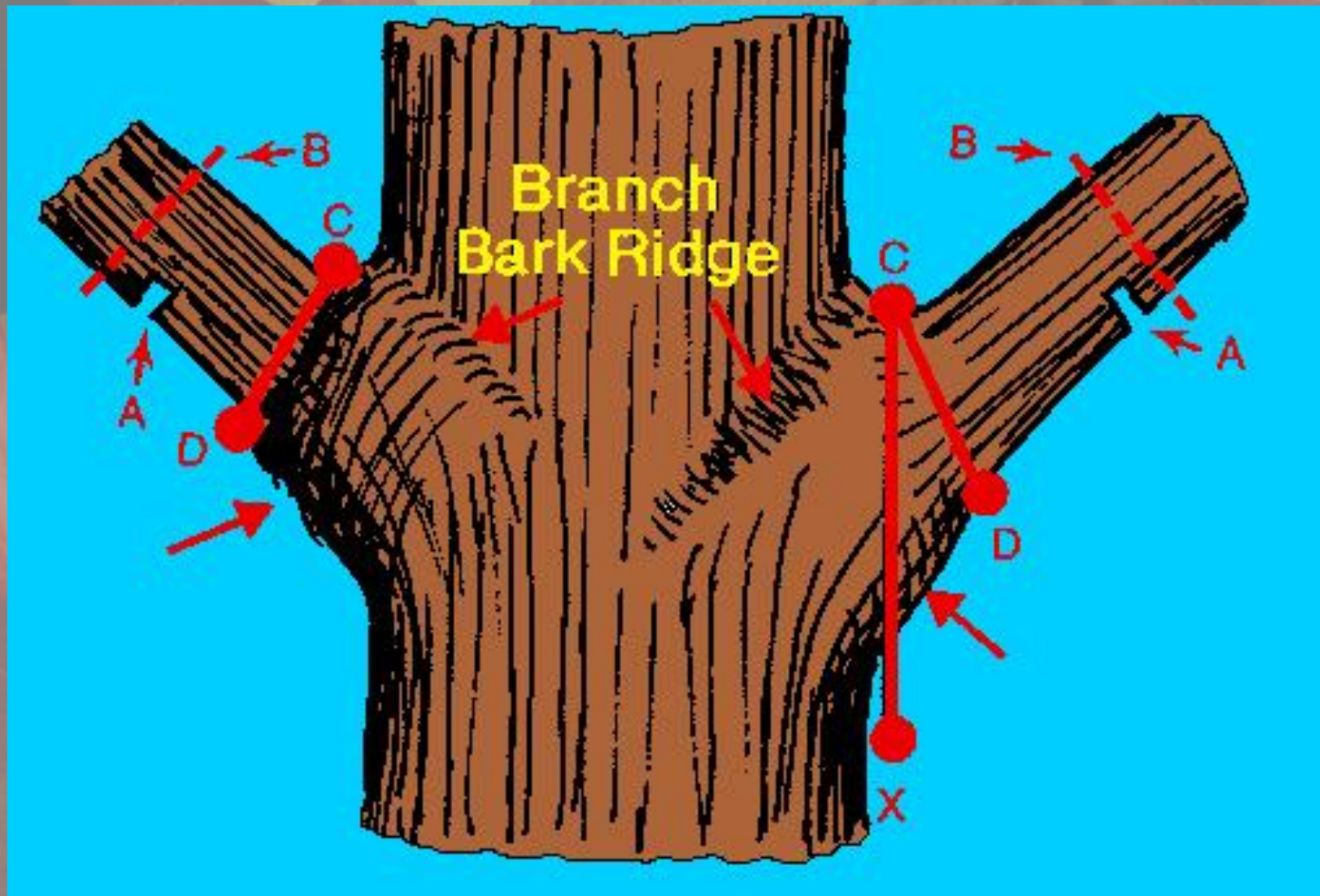
Pruning



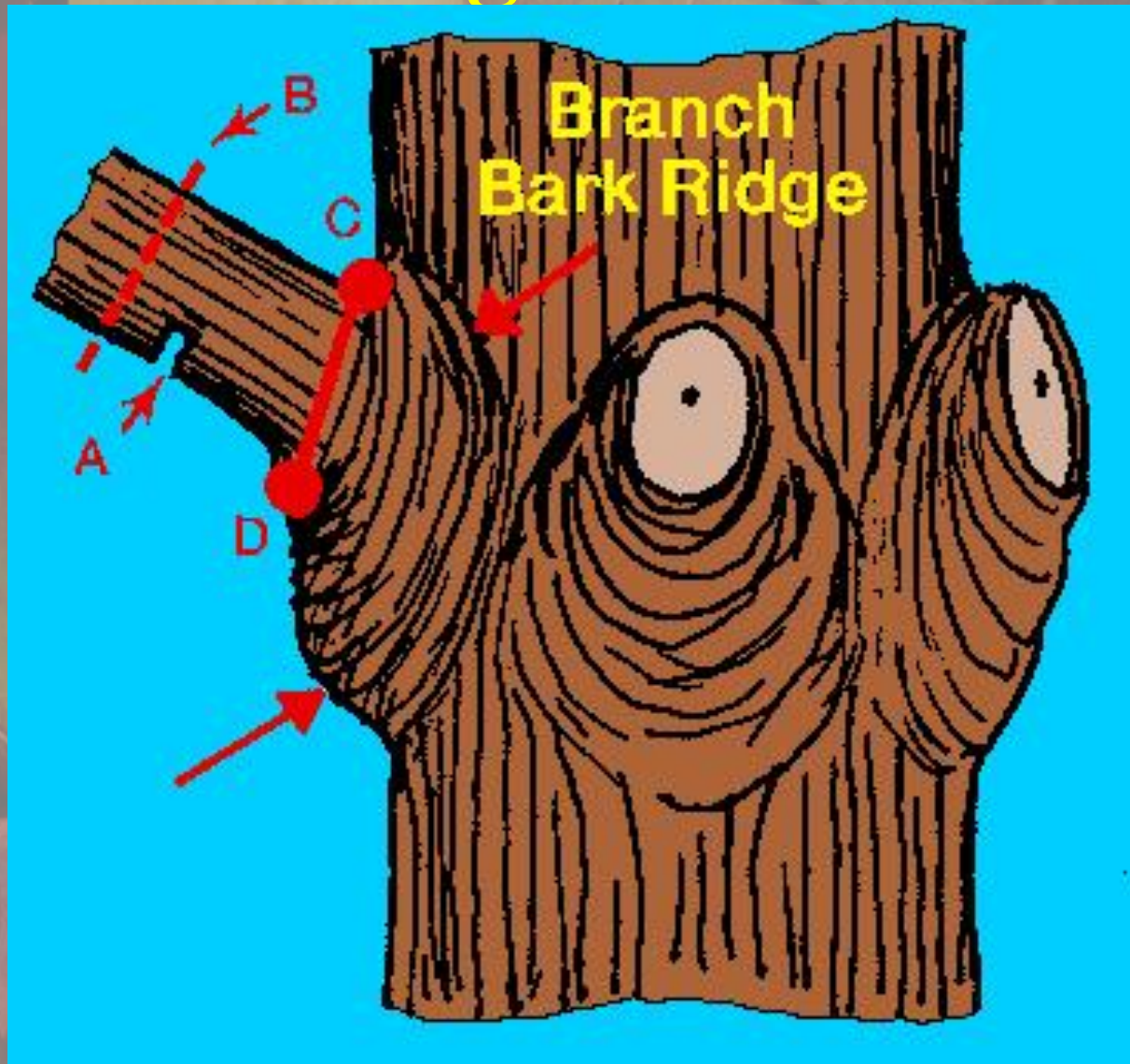
Pruning



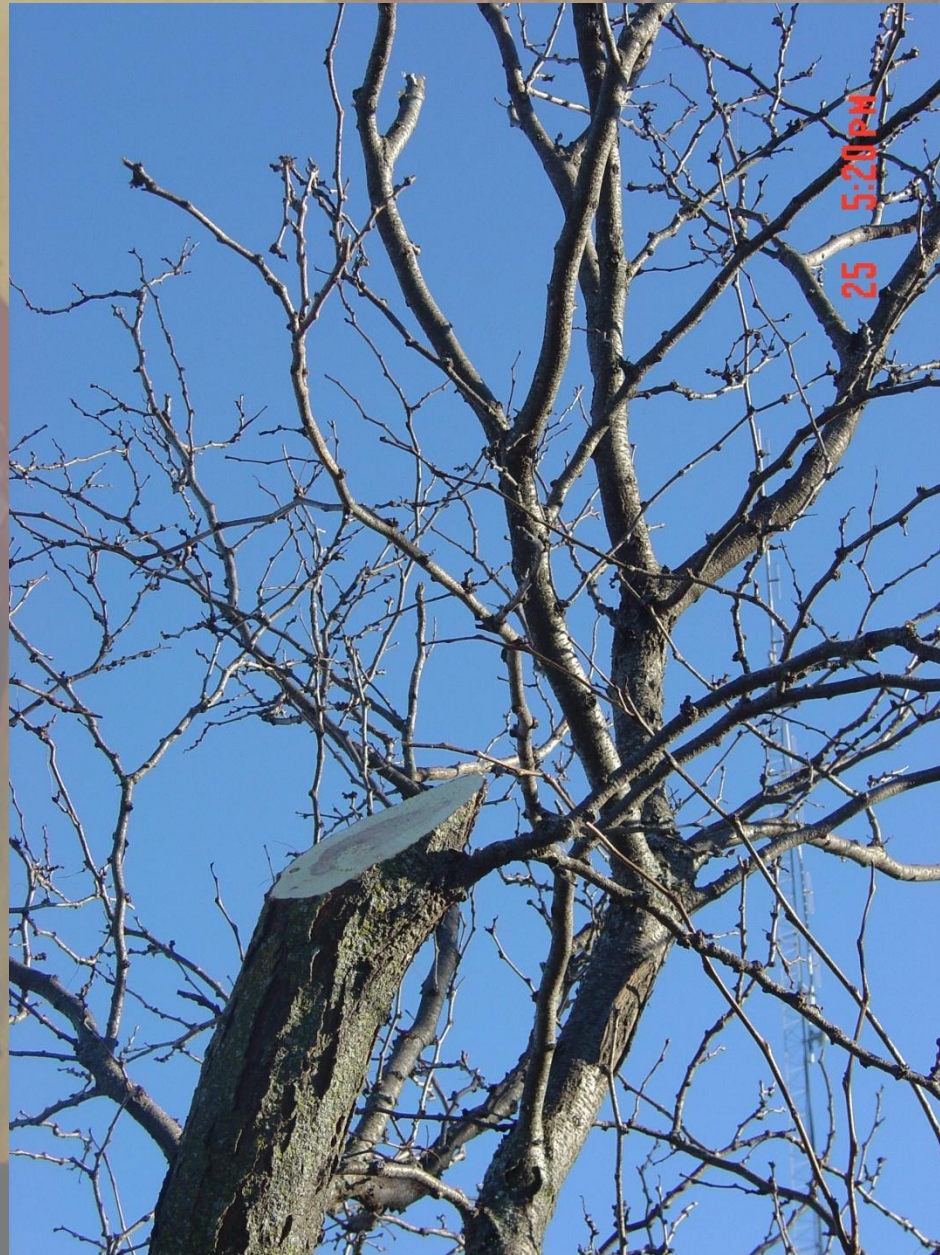
Pruning - Hardwood



Pruning - Conifers

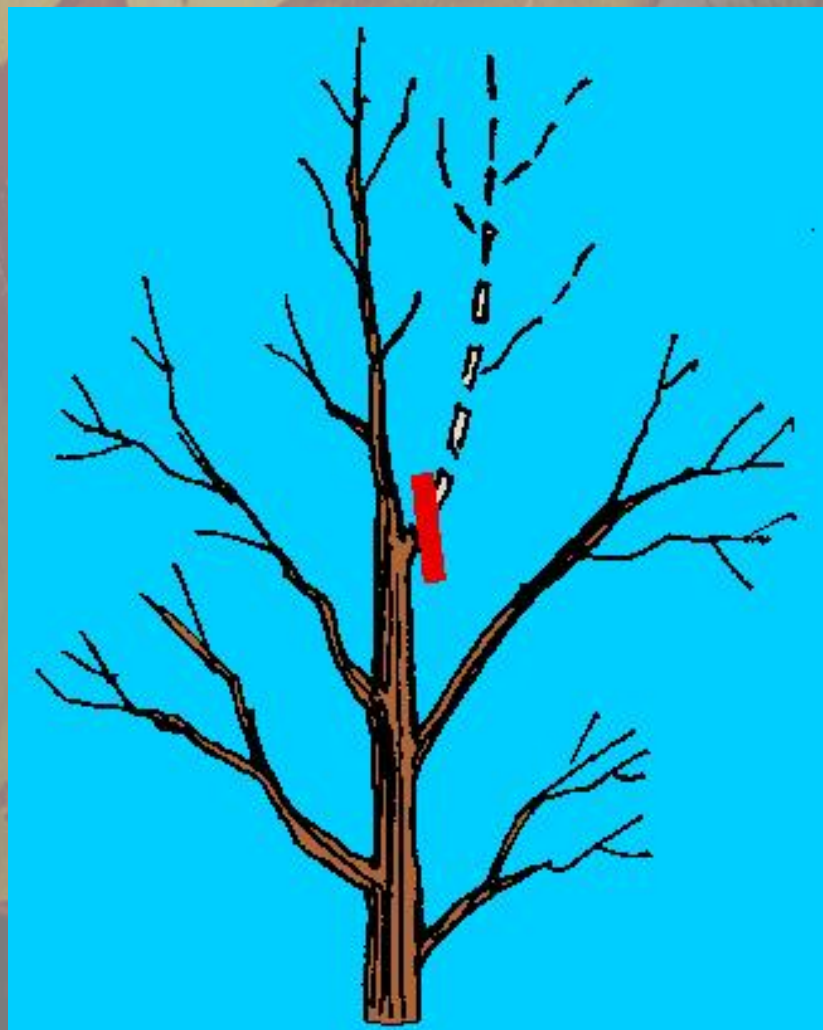




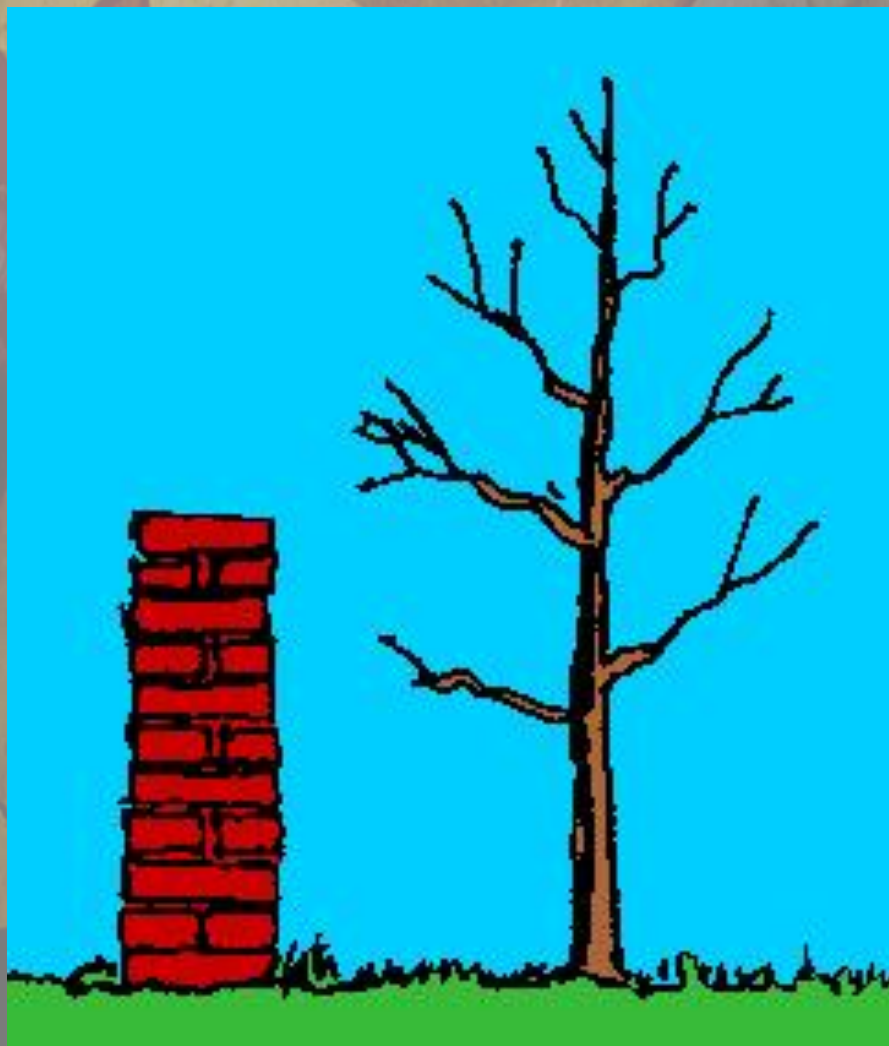




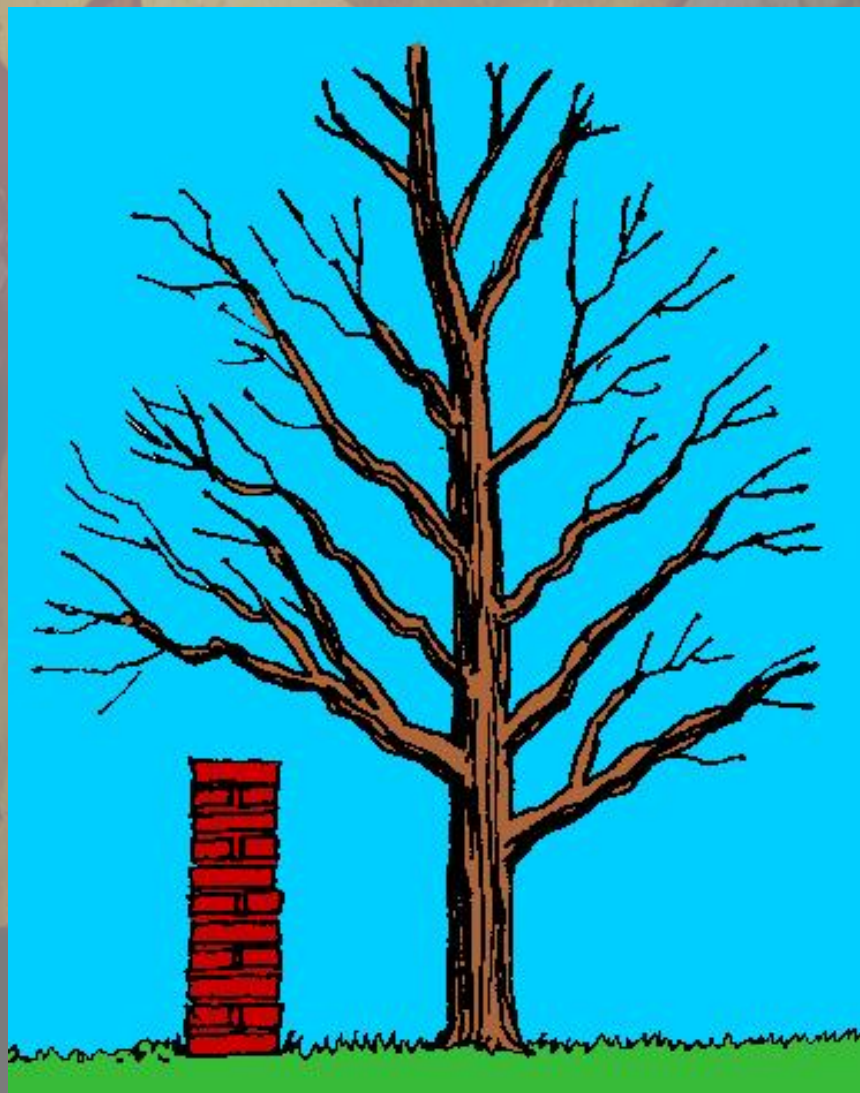
Pruning



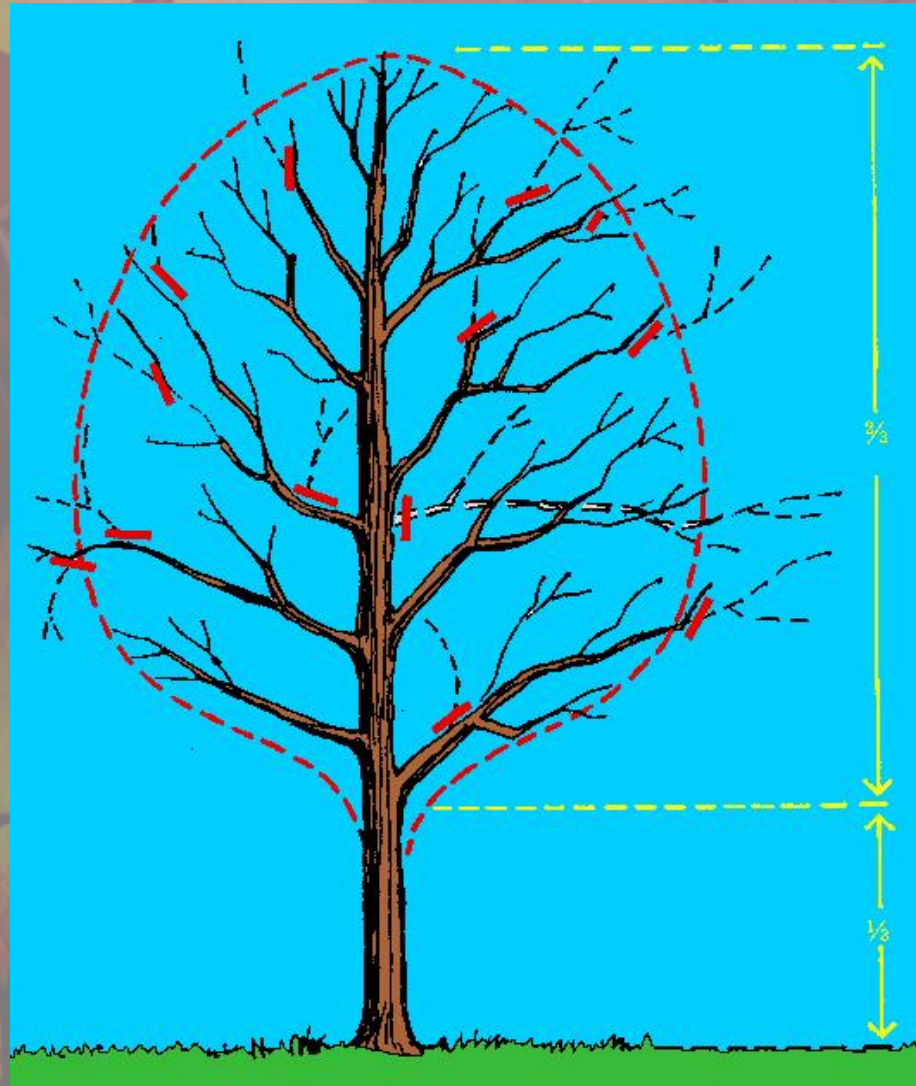
Pruning



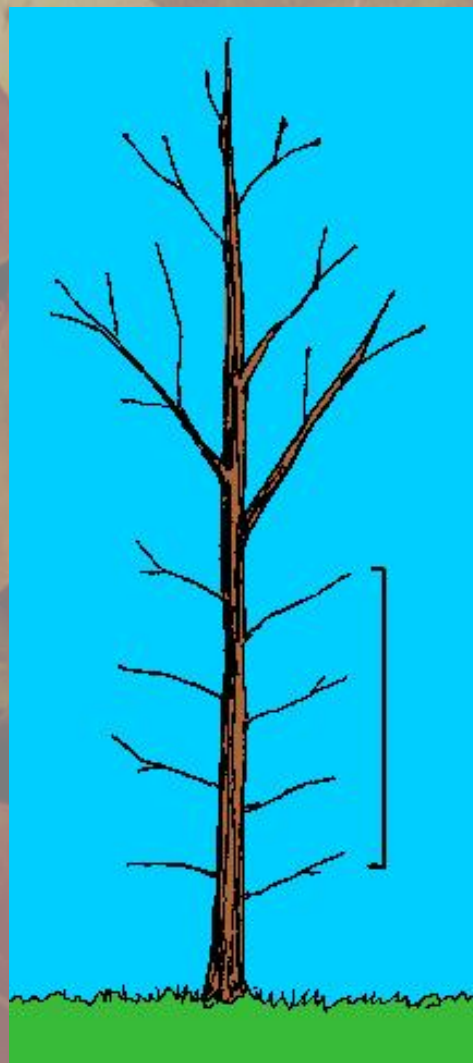
Pruning



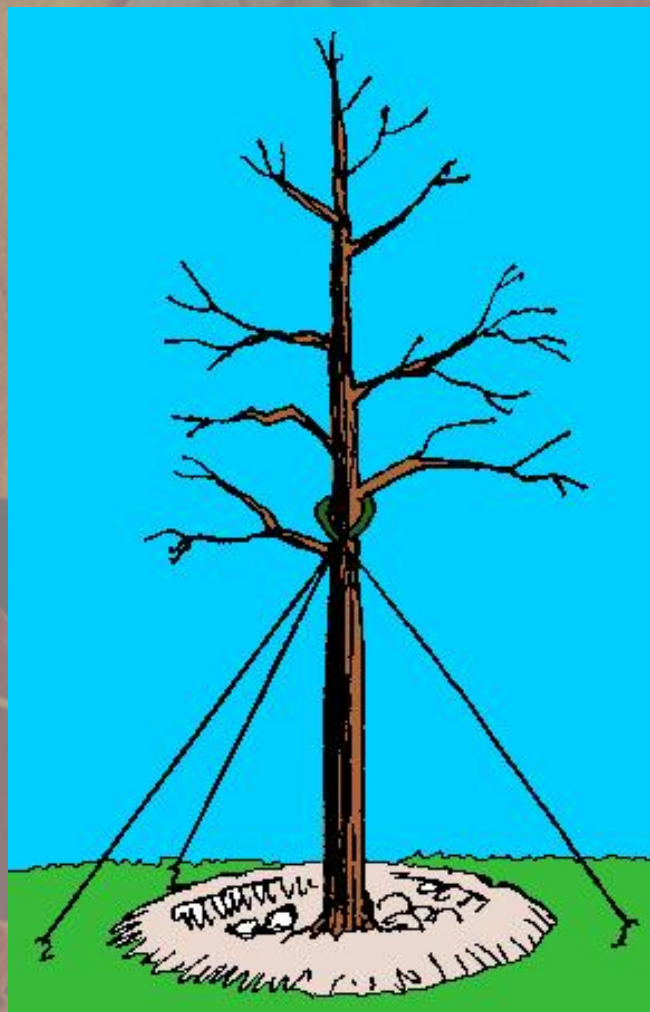
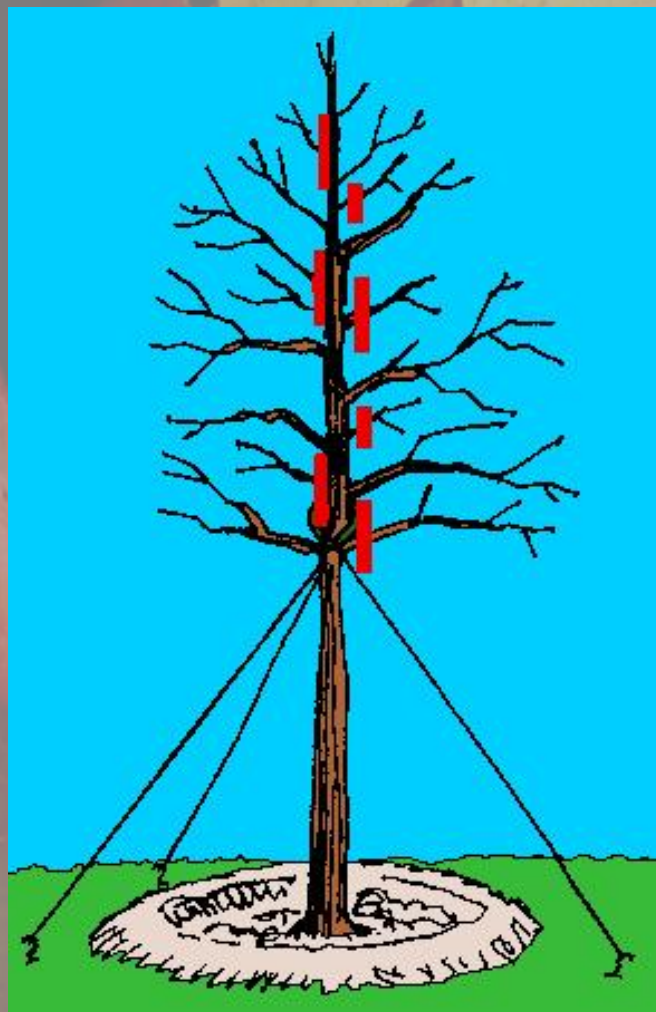
Pruning



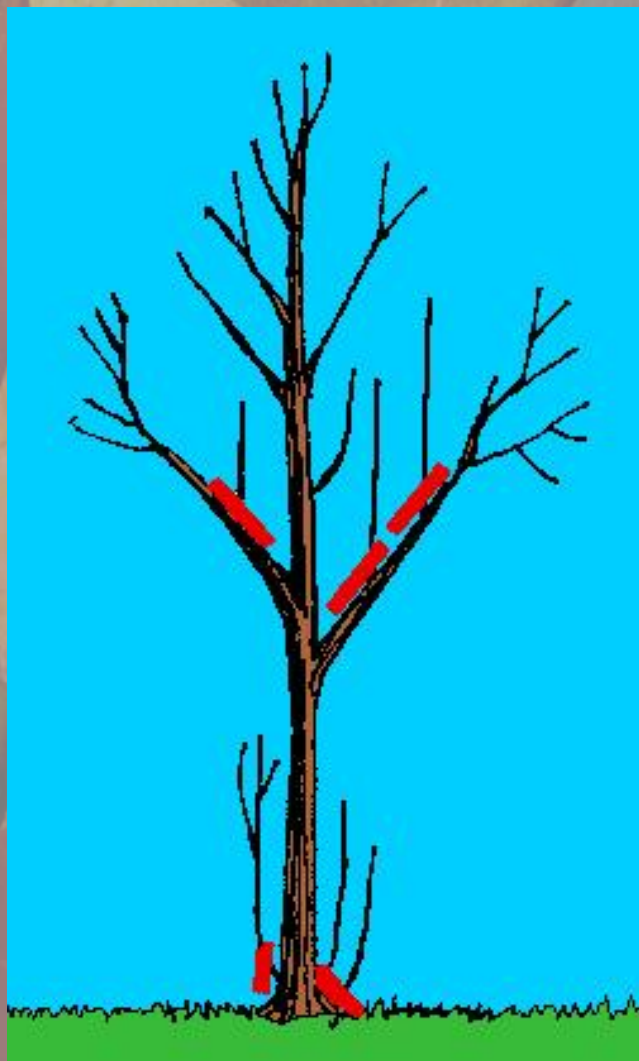
Pruning



Pruning



Pruning



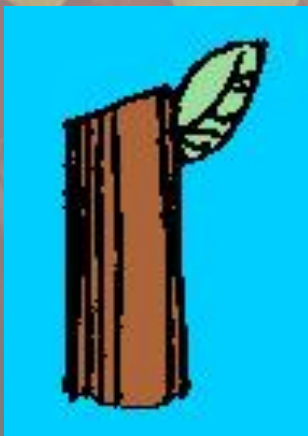
Pruning

- Pruning paints are **NOT** recommended
 - Paints only provide cosmetic relief
 - Wound will turn gray to black or dark brown over time (usually several months)
 - Some paints actually hurt the tree preventing it from growing over the wound
 - Most paints dry and crack, then hold moisture underneath providing good locations for pathogens to start and maintain infections

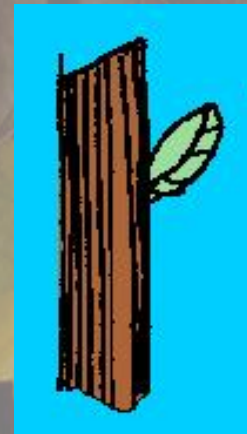


Pruning to bud

Too
Close



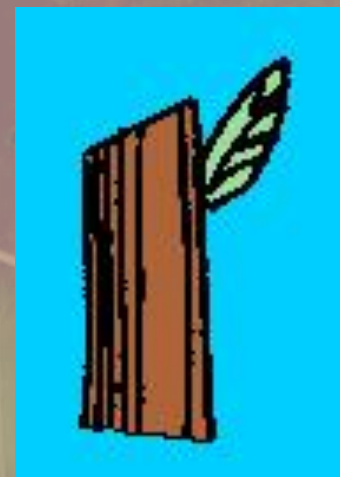
Too
Long



Too
Slanted



Correct



Topping



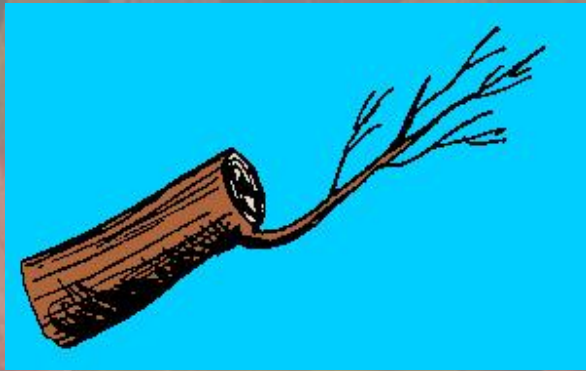
Topping



Topping



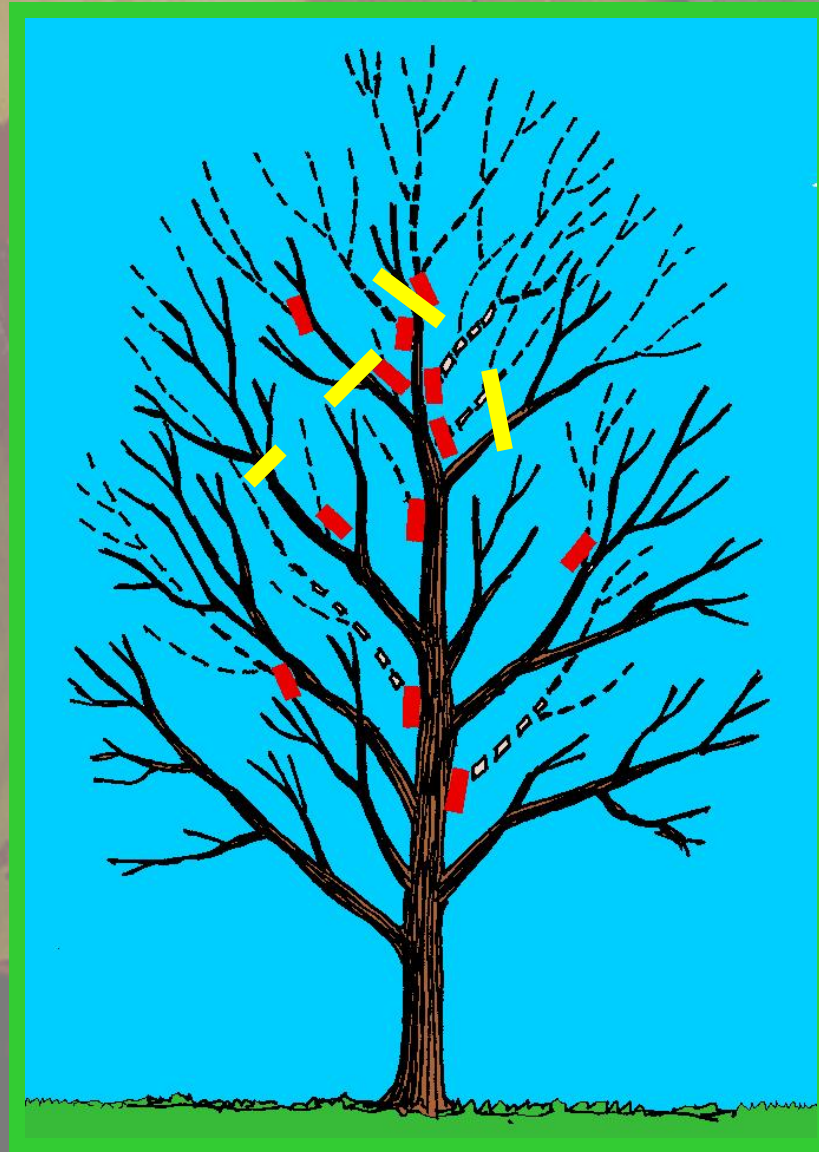
Topping



Topping Cuts



Reduce Size





Happy Tree Everything !!!



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